2013 Portfolio Analysis Projects

QUESTION 3: WHAT CAUSED THIS TO HAPPEN AND CAN IT BE PREVENTED?

2013 Projects: 147 2013 Funding: \$55,666,351

3.S.A

Coordinate and implement the inclusion of approximately 20,000 subjects for genome-wide association studies, as well as a sample of 1,200 for sequencing studies to examine more than 50 candidate genes by 2011. Studies should investigate factors contributing to phenotypic variation across individuals that share an identified genetic variant and stratify subjects according to behavioral, cognitive, and clinical features. *IACC Recommended Budget:* \$43,700,000 over 4 years.

2013 Projects: 11 **2013 Funding:** \$4,965,929

Project Title	Principal Investigator	Institution	Funding	Funder
Genome-wide expression profiling data analysis to study autism genetic models	Luo, Rui	University of California, Los Angeles	\$0	Autism Speaks
Genomic influences on developmental course and outcome in Infants at risk of ASD: A Baby Siblings Research Consortium (BSRC) Study	Zwaigenbaum, Lonnie	University of Alberta	\$149,882	Autism Speaks
Genomic influences on development and outcomes in Infants at risk of ASD	Zwaigenbaum, Lonnie	University of Alberta	\$337,779	Autism Speaks
An exploration of genetic and behavioral variables in Autism Spectrum Disorder	Dixon, Dennis	Center for Autism and Related Disorders (CARD)	\$30,800	Center for Autism and Related Disorders
1/4-The Autism Sequencing Consortium: Autism gene discovery in >20,000 exomes	Buxbaum, Joseph	Mount Sinai School of Medicine	\$817,786	National Institutes of Health
2/4-The Autism Sequencing Consortium: Autism gene discovery in >20,000 exomes	Daly, Mark	Broad Institute, Inc.	\$483,807	National Institutes of Health
3/4 - The Autism Sequencing Consortium: Autism gene discovery in >20,000 exomes	Devlin, Bernie	University of Pittsburgh	\$276,478	National Institutes of Health

Sporadic mutations and autism spectrum disorders	Eichler, Evan	University of Washington	\$713,231	National Institutes of Health
Rapid phenotyping for rare variant discovery in autism	Nelson, Stanley	University of California, Los Angeles	\$661,281	National Institutes of Health
4/4 The Autism Sequencing Consortium: Autism gene discovery in >20,000 exomes	State, Matthew	University of California, San Francisco	\$759,778	National Institutes of Health
Autism genetics: Homozygosity mapping and functional validation	Walsh, Christopher	Boston Children's Hospital	\$735,107	National Institutes of Health

3.S.B

Within the highest priority categories of exposures for ASD, identify and standardize at least three measures for identifying markers of environmental exposure in biospecimens by 2011. *IACC Recommended Budget:* \$3,500,000 over 3 years.

2013 Projects: 2 **2013 Funding:** \$0

Project Title	Principal Investigator	Institution	Funding	Funder
Environmental exposures measured in deciduous teeth as potential biomarkers for autism risk	Palmer, Raymond	University of Texas Health Science Center at San Antonio	\$0	Autism Speaks
Dissemination of Early Life Exposure Assessment Tool (ELEAT)	Schmidt, Rebecca	University of California, Davis	\$0	Autism Speaks

3.S.C

Initiate efforts to expand existing large case-control and other studies to enhance capabilities for targeted gene – environment research by 2011.

IACC Recommended Budget: \$27,800,000 over 5 years.

2013 Projects: 6 **2013 Funding:** \$4,680,036

Project Title	Principal Investigator	Institution	Funding	Funder
Perinatal exposure to airborne pollutants and associations with autism phenotype	Volk, Heather	University of Southern California	\$149,737	Autism Speaks

Air pollution, MET genotype and ASD risk: GxE Interaction in the EMA Study	Croen, Lisa	Kaiser Permanente	\$150,000	Autism Speaks
Prenatal and neonatal biologic markers for autism	Croen, Lisa	Kaiser Foundation Research Institute	\$725,197	National Institutes of Health
Autism risk, prenatal environmental exposures, and pathophysiologic markers	Hertz-Picciotto, Irva	University of California, Davis	\$1,759,913	National Institutes of Health
The CHARGE study: childhood autism risks from genetics and the environment	Hertz-Picciotto, Irva	University of California, Davis	\$1,151,250	National Institutes of Health
The role of germline mutation and parental age in autism spectrum disorders	Sebat, Jonathan	University of California, San Diego	\$743,939	National Institutes of Health

3.S.D

Enhance existing case-control studies to enroll racially and ethnically diverse populations affected by ASD by 2011. *IACC Recommended Budget:* \$3,300,000 over 5 years.

2013 Projects: 2 **2013 Funding:** \$3,168,451

Project Title	Principal Investigator	Institution	Funding	Funder
ACE Network: Autism Genetics, Phase II: Increasing representation of human diversity	Geschwind, Daniel	University of California, Los Angeles	\$162,535	National Institutes of Health
ACE Network: Autism Genetics, Phase II: Increasing representation of human diversity	Geschwind, Daniel	University of California, Los Angeles	\$3,005,916	National Institutes of Health

3.S.E

Support at least two studies to determine if there are subpopulations that are more susceptible to environmental exposures (e.g., immune challenges related to infections, vaccinations, or underlying autoimmune problems) by 2012. *IACC Recommended Budget:* \$8,000,000 over 2 years.

2013 Projects: 7 **2013 Funding:** \$282,300

Project Title	Principal Investigator	Institution	Funding	Funder	
---------------	---------------------------	-------------	---------	--------	--

Research project about a potential infectious origin of autism	Montagnier, Luc	Institut de Recherche Luc Montagnier	\$0	Autism Research Institute
To Study Maternal Anti-GAD Antibodies in Autism	Russo, A.J.	Hartwick College	\$5,260	Autism Research Institute
Prevalence and patterns of medical co- morbidity and healthcare use before ASD diagnoses in children	Croen, Lisa	Kaiser Foundation Research Institute	\$149,999	Autism Speaks
Novel Proteomics Approach to Oxidative Posttranslational Modifications Underlying Anxiety and Autism Spectrum Disorders	Lipton, Stuart	Sanford Burnham Medical Research Center	\$0	Brain & Behavior Research Foundation
PROTEOMIC MAPPING OF THE IMMUNE RESPONSE TO GLUTEN IN CHILDREN WITH AUTISM	Alaedini, Armin	Columbia University New York Morningside	\$67,041	Department of Defense
Maternal autoreactivity and autoimmune disease in autism	Diamond, Betty	The Feinstein Institute for Medical Research	\$0	Simons Foundation
Environmental exposure unveils mitochondrial dysfunction in autism	Giulivi, Cecilia	University of California, Davis	\$60,000	Simons Foundation

3.S.F

Initiate studies on at least 10 environmental factors identified in the recommendations from the 2007 IOM report "Autism and the Environment: Challenges and Opportunities for Research" as potential causes of ASD by 2012. *IACC Recommended Budget:* \$56,000,000 over 2 years (revised in 2010).

2013 Projects: 1 **2013 Funding:** \$0

Project Title	Principal Investigator	Institution	Funding	Funder
UC Davis Center for Children's Environmental Health (CCEH) Bridge	Pessah, Isaac	University of California, Davis	\$0	Autism Speaks

3.S.G

Convene a workshop that explores the usefulness of bioinformatics approaches to identify environmental risk factors for ASD by 2011. *IACC Recommended Budget:* \$35,000 over 1 year.

(This objective was completed in 2011.)

3.S.H

Support at least three studies of special populations or use existing databases to inform our understanding of environmental risk factors for ASD in pregnancy and the early postnatal period by 2012. Such studies could include:

- o Comparisons of populations differing in geography, gender, ethnic background, exposure history (e.g., prematurity, maternal infection, nutritional deficiencies, toxins), and migration patterns; and
- Comparisons of phenotype (e.g., cytokine profiles), in children with and without a history of autistic regression, adverse events following immunization (such as fever and seizures), and mitochondrial impairment. These studies may also include comparisons of phenotype between children with regressive ASD and their siblings.

Emphasis on environmental factors that influence prenatal and early postnatal development is particularly of high priority. Epidemiological studies should pay special attention to include racially and ethnically diverse populations. *IACC Recommended Budget:* \$12,000,000 over 5 years.

2013 Projects: 12 **2013 Funding:** \$5,137,711

Project Title	Principal Investigator	Institution	Funding	Funder
Very early behavioral indicators of ASD risk among NICU infants: A prospective study	Gardner, Judith	Institute for Basic Research in Developmental Disabilities	\$149,986	Autism Speaks
Early life environmental exposures and autism in an existing Swedish birth cohort	Lee, Brian	Drexel University	\$0	Autism Speaks
Investigation of Transgenerational Neurodevelopmental Impacts of Gestational Pharmaceuticals	Mortensen, Erik	Institute of Preventive Medicine at Frederiksberg Hospital	\$100,000	Autism Speaks
Prenatal Androgen in Meconium and Early Autism Spectrum Disorder Related Neurodevelopmental Outcomes	Park, Bo	Drexel University	\$29,423	Autism Speaks
Parental Exposures to Occupational Asthmagens and Risk of Autism Spectrum Disorders	Singer, Alison	Johns Hopkins University	\$29,500	Autism Speaks

Gestational exposure questionnaire validation and feasibility study	Walker, Cheryl	University of California, Davis	\$20,262	Autism Speaks
Risk factors, comorbid conditions, and epidemiology of autism in children	Nylund, Cade	Henry M. Jackson Foundation	\$0	Department of Defense
Neonatal biomarkers in extremely preterm babies predict childhood brain disorders	Kuban, Karl	Boston Medical Center	\$3,655,744	National Institutes of Health
In utero antidepressant exposures and risk for autism	Perlis, Roy	Massachusetts General Hospital	\$343,560	National Institutes of Health
Epidemiological research on autism in Jamaica - Phase II	Rahbar, Mohammad	University of Texas Health Science Center at Houston	\$607,366	National Institutes of Health
Gestational metabolic conditions and autism	Walker, Cheryl	University of California, Davis	\$77,000	National Institutes of Health
Prenatal folic acid and risk for autism spectrum disorders	Cubells, Joseph	Emory University School of Medicine	\$124,870	Simons Foundation

3.S.I

Support at least two studies that examine potential differences in the microbiome of individuals with ASD versus comparison groups by 2012.

IACC Recommended Budget: \$1,000,000 over 2 years.

2013 Projects: 8

2013 Projects: 8 **2013 Funding:** \$960,391

Project Title	Principal Investigator	Institution	Funding	Funder
Modeling Gut Microbial Ecology and Metabolism in Autism Using an Innovative Ex Vivo Approach	Allen-Vercoe, Emma	University of Guelph	\$22,441	Autism Research Institute
Regressive autism as an infectious disease: Role of the home as an environmental factor	Finegold, Sydney	VA Medical Center, Los Angeles	\$0	Autism Research Institute
Elevated urinary P-cresol in small autistic children: Origin and consequences	Persico, Antonio	Universita Campus Bio- Medico di Roma	\$0	Autism Research Institute
Role of Intestinal Microbiome in Children with Autism	Winter, Harland and Kushak, R.	Massachusetts General Hospital	\$29,000	Autism Research Institute
Defining the underlying biology of gastrointestinal dysfunction in autism	Ashwood, Paul	University of California, Davis	\$0	Autism Speaks

Modeling gut microbial ecology and metabolism in autism using an innovative ex vivo approach	Allen-Vercoe, Emma	University of Guelph	\$0	Department of Defense
Investigating the gut microbiome for novel therapies and diagnostics for autism	Patterson, Paul	California Institute of Technology	\$558,136	National Institutes of Health
Autism, GI symptoms and the enteric microbiota	Li, Ellen	The Research Foundation of the State University of New York at Stony Brook	\$350,814	Simons Foundation

3.S.J

Support at least three studies that focus on the role of epigenetics in the etiology of ASD, including studies that include assays to measure DNA methylations and histone modifications and those exploring how exposures may act on maternal or paternal genomes via epigenetic mechanisms to alter gene expression, by 2012. *IACC Recommended Budget:* \$20,000,000 over 5 years.

2013 Projects: 19 **2013 Funding**: \$4,972,257

Project Title	Principal Investigator	Institution	Funding	Funder
Genome-wide examination of DNA methylation in autism	Fallin, Dani	Johns Hopkins University	\$149,999	Autism Speaks
5-Hydroxymethylcytocine-mediated epigenetic regulation in autism spectrum disorders	Jin, Peng	Emory University	\$60,000	Autism Speaks
Paternal age and epigenetic mechanisms in psychiatric disease	Milekic, Maria H.	Research Foundation for Mental Hygiene, Inc/NYSPI	\$15,000	Brain & Behavior Research Foundation
Evaluating the Functional Impact of Epigenetic Control Related Genes Mutated in both Schizophrenia and Autism	Xu, Bin	Columbia University	\$0	Brain & Behavior Research Foundation
Human neurobehavioral phenotypes associates with the extended PWS/AS domain	Beaudet, Arthur	Baylor College of Medicine	\$587,398	National Institutes of Health
In vivo function of neuronal activity-induced MeCP2 phosphorylation	Chang, Qiang	University of Wisconsin - Madison	\$277,792	National Institutes of Health
Cell specific genomic imprinfing during cortical development and in mouse models	Dulac, Catherine	Harvard University	\$308,216	National Institutes of Health

Environment, the perinatal epigenome, and risk for autism and related disorders	Fallin, Margaret	Johns Hopkins University	\$1,400,550	National Institutes of Health
Epigenetic and transcriptional dysregulation in autism spectrum disorder	Geschwind, Daniel	University of California, Los Angeles	\$748,775	National Institutes of Health
Mechanisms of valproic acid-induced neurodevelopmental and behavioral defects	Krueger, Bruce	University of Maryland, Baltimore	\$302,269	National Institutes of Health
Project 2: Perinatal epigenetic signature of environmental exposure	Lasalle, Janine	University of California, Davis	\$105,416	National Institutes of Health
Methylomic and genomic impacts of organic pollutants in Dup15q syndrome	LaSalle, Janine	University of California, Davis	\$338,560	National Institutes of Health
Exploring interactions between folate and environmental risk factors for autism	Schmidt, Rebecca	University of California, Davis	\$153,615	National Institutes of Health
Genome-wide analyses of DNA methylation in autism	Chess, Andrew	Mount Sinai School of Medicine	\$0	Simons Foundation
Conservation of imprinting for autism-linked genes in the brain	Gregg, Christopher	University of Utah	\$60,000	Simons Foundation
5-hydroxymethylcytocine-mediated epigenetic regulation in autism	Jin, Peng	Emory University	\$200,000	Simons Foundation
Regulation of gene expression through complex containing AUTS2	Reinberg, Danny	New York University School of Medicine	\$100,854	Simons Foundation
Mutations in heterochromatin-related genes in autism	Shifman, Sagiv	Hebrew University of Jerusalem	\$0	Simons Foundation
Epigenetic DNA modifications in autistic spectrum disorders	Song, Hongjun	Johns Hopkins University School of Medicine	\$163,813	Simons Foundation

<u>3.S.K</u>

Support two studies and a workshop that facilitate the development of vertebrate and invertebrate model systems for the exploration of environmental risks and their interaction with gender and genetic susceptibilities for ASD by 2012. *IACC Recommended Budget:* \$1,535,000 over 3 years.

2013 Projects: 3

2013 Projects: 3 **2013 Funding:** \$0

Project Title	Principal Investigator	Institution	Funding	Funder
The role of serotonin in social bonding in animal models	Simon, Rebecca	University of California, Davis	\$0	Autism Science Foundation
Cellular and Synaptic Dissection of the Neuronal Circuits of Social and Autistic Behavior	Peca, Joao	University of Coimbra	\$0	Brain & Behavior Research Foundation
Genetic and environmental interactions leading to autism-like symptoms	Pfaff, Donald	The Rockefeller University	\$0	Simons Foundation

3.L.A

Conduct a multi-site study of the subsequent pregnancies of 1,000 women with a child with ASD to assess the impact of environmental factors in a period most relevant to the progression of ASD by 2014. *IACC Recommended Budget:* \$11,100,000 over 5 years.

2013 Projects: 2 **2013 Funding:** \$411,571

Project Title	Principal Investigator	Institution	Funding	Funder
Evaluating epidemiological and biostatistical challenges in the EARLI investigation	Heavner, Karyn	Drexel University	\$0	Autism Science Foundation
Early autism risk longitudinal investigation (EARLI) network	Newschaffer, Craig J	Drexel University	\$411,571	National Institutes of Health

3.L.B

Identify genetic risk factors in at least 50% of people with ASD by 2014. IACC Recommended Budget: \$33,900,000 over 6 years.

2013 Projects: 51 **2013 Funding:** \$12,260,187

Project Title	Principal Investigator	Institution	Funding	Funder
Molecular Characterization of Autism Gene CHD8 in Shaping the Brain Epigenome	Badeaux, Aimee	Boston Children's Hospital	\$35,000	Autism Science Foundation

Examining the Y-chromosome in autism spectrum disorder	Scherer, Stephen	The Hospital for Sick Children	\$0	Autism Speaks
Autism Genome Project (AGP): Genome sequencing and analysis supplement	Scherer, Stephen	The Hospital for Sick Children	\$0	Autism Speaks
Autism Genome Project (AGP)	Staff Member	Autism Speaks (AS)	\$0	Autism Speaks
Identifying genetic variants on the Y chromosome of males with autism	Yuen, Ryan	The Hospital for Sick Children	\$53,430	Autism Speaks
Sequence-based discovery of genes with pleiotropic effects across diagnostic boundaries and throughout the lifespan	Talkowski, Michael E.	Massachusetts General Hospital and Harvard University	\$29,995	Brain & Behavior Research Foundation
Dissecting expression regulation of an autism GWAS hit	Weiss, Lauren A.	University of California, San Francisco	\$15,000	Brain & Behavior Research Foundation
Genetic epidemiology of complex traits	Bailey-Wilson, Joan	National Institutes of Health	\$589,154	National Institutes of Health
Next generation gene discovery in familial autism	Brkanac, Zoran	University of Washington	\$644,126	National Institutes of Health
1/3-Sequencing autism spectrum disorder extended pedigrees	Coon, Hilary	University of Utah	\$286,240	National Institutes of Health
Novel statistical methods for DNA sequencing data, and applications to autism	Ionita, Iuliana	Columbia University	\$314,312	National Institutes of Health
Hypocholesterolemic autism spectrum disorder	Porter, Forbes	National Institutes of Health	\$45,647	National Institutes of Health
3/3-Sequencing autism spectrum disorder extended pedigrees	Schellenberg, Gerard	University of Pennsylvania	\$153,600	National Institutes of Health
Investigation of DUF1220 domains in human brain function and disease	Sikela, James	University of Colorado Denver	\$361,544	National Institutes of Health
Complex genetic architecture of chromosomal aberrations in autism	Talkowski, Michael	Massachusetts General Hospital	\$92,917	National Institutes of Health
Autism genetics: Homozygosity mapping and functional validation	Walsh, Christopher	Boston Children's Hospital	\$150,000	National Institutes of Health
2/3-Sequencing autism spectrum disorder extended pedigrees	Wijsman, Ellen	University of Washington	\$222,480	National Institutes of Health

Developing new statistical methods to detect variants involved in complex disease	Yao, Yin	National Institutes of Health	\$434,485	National Institutes of Health
Integrative genetic analysis of autism brain tissue	Arking, Dan	Johns Hopkins University School of Medicine	\$0	Simons Foundation
Simons Simplex Collection support grant	Bernier, Raphael	University of Washington	\$24,484	Simons Foundation
Genomic profiling of autism families using whole-genome sequencing	Bourgeron, Thomas	Institut Pasteur	\$174,960	Simons Foundation
Sequencing Female-enriched Multiplex Autism Families (FEMFs)	Chakravarti, Aravinda	Johns Hopkins University School of Medicine	\$0	Simons Foundation
Simons Simplex Collection support grant	Cook, Edwin	University of Illinois at Chicago	\$23,645	Simons Foundation
Genome-wide analysis of cis-regulatory elements in autism	Corbo, Joseph	Washington University in St. Louis	\$62,500	Simons Foundation
Genomic hotspots of autism	Eichler, Evan	University of Washington	\$0	Simons Foundation
Whole exome sequencing of Simons Simplex Collection quads	Eichler, Evan	University of Washington	\$1,495,957	Simons Foundation
Genetic basis of phenotypic variability in 16p11.2 deletion or duplication	Eichler, Evan	University of Washington	\$0	Simons Foundation
Simons Simplex Collection support grant	Elsabbagh ,Mayada	McGill University Health Centre- Montreal Children's Hospital	\$21,268	Simons Foundation
A genome-wide search for autism genes in the SSC UCLA	Geschwind, Daniel	University of California, Los Angeles	\$0	Simons Foundation
Simons Simplex Collection support grant	Geschwind, Daniel	University of California, Los Angeles	\$30,000	Simons Foundation
Whole-exome sequencing to identify causative genes for autism	Gleeson, Joseph	Rockefeller University	\$175,000	Simons Foundation
Simons Simplex Collection support grant	Kochel, Robin	Baylor College of Medicine	\$26,824	Simons Foundation
A genome-wide search for autism genes in the SSC Emory	Lese Martin, Christa	Emory University	\$0	Simons Foundation
Simons Simplex Collection support grant	Lord, Catherine	Weill Cornell Medical College	\$20,991	Simons Foundation

Simons Simplex Collection support grant	Miles, Judith	University of Missouri	\$30,000	Simons Foundation
Illumina, Inc.	No PI listed	Illumina, Inc.	\$556,250	Simons Foundation
Simons Simplex Collection support grant	Pelphrey, Kevin	Yale University	\$25,704	Simons Foundation
Simons Simplex Collection support grant	Peterson, Bradley	Columbia University	\$21,675	Simons Foundation
Simons Simplex Collection support grant	Saulnier, Celine	Emory University	\$30,000	Simons Foundation
Mutations in noncoding DNA and the missing heritability of autism	Sebat, Jonathan	University of California, San Diego	\$124,987	Simons Foundation
Whole exome sequencing of Simons Simplex Collection quads	State, Matthew	Yale University	\$536,779	Simons Foundation
A genome-wide search for autism genes in the SSC Vanderbilt	Sutcliffe, James	Vanderbilt University Medical Center	\$0	Simons Foundation
Simons Simplex Collection support grant	Sutcliffe, James	Vanderbilt University Medical Center	\$25,735	Simons Foundation
Cryptic chromosomal aberrations contributing to autism	Talkowski, Michael	Massachusetts General Hospital	\$135,649	Simons Foundation
Identification of functional networks perturbed in autism	Vitkup, Dennis	Columbia University	\$60,000	Simons Foundation
Mitochondria and the etiology of autism	Wallace, Douglas	The Children's Hospital of Philadelphia	\$350,000	Simons Foundation
Finding recessive genes for autism spectrum disorders	Walsh, Christopher	Boston Children's Hospital	\$175,000	Simons Foundation
Simons Simplex Collection support grant	Walsh, Christopher	Boston Children's Hospital	\$23,171	Simons Foundation
Genetic basis of autism	Wigler, Michael	Cold Spring Harbor Laboratory	\$4,000,571	Simons Foundation
<u>Autism Genome Project Consortium data</u> reanalysis using computational biostatistics	Wittkowski, Knut	The Rockefeller University	\$0	Simons Foundation
Genomic influences on development and outcomes in infants at risk for autism	Zwaigenbaum, Lonnie	University of Alberta	\$681,108	Simons Foundation

3.L.C

Determine the effect of at least five environmental factors on the risk for subtypes of ASD in the pre- and early postnatal period of development by 2015. *IACC Recommended Budget:* \$25,100,000 over 7 years.

2013 Projects: 4 **2013 Funding:** \$490,000

Project Title	Principal Investigator	Institution	Funding	Funder
Prenatal PBDE exposure and ASD-related developmental outcomes in the EARLI cohort	Newschaffer, Craig	Drexel University	\$150,000	Autism Speaks
Prenatal antidepressants and autism spectrum disorder	Vorhees, Charles	Cincinnati Children's Hospital Medical Center	\$0	Department of Defense
PLACENTAL IDENTIFICATION AND IMMUNE QUANTIFICATION OF ACUTE AND/OR CHRONIC INFLAMMATION IN CHILDREN DIAGNOSED WITH PLACENTAL AUTISM IN UNIVERSITY AND COMMUNITY HOSPITALS	Salafia, Carolyn	Institute for Basic Research in Developmental Disabilities	\$148,000	Department of Defense
Assisted reproductive technologies and increased autism risk	Bearman, Peter	Columbia University	\$192,000	National Institutes of Health

3.L.D

Support ancillary studies within one or more large-scale, population-based surveillance and epidemiological studies, including U.S. populations, to collect data on environmental factors during preconception, and during prenatal and early postnatal development, as well as genetic data, that could be pooled (as needed), to analyze targets for potential gene/environment interactions by 2015. *IACC Recommended Budget:* \$44,400,000 over 5 years.

2013 Projects: 15 **2013 Funding:** \$17,799,693

Project Title	Principal Investigator	Institution	Funding	Funder
Community-based study of autism spectrum disorders among 7-9 y old children in rural Bangladesh	Christian, Parul	Johns Hopkins University	\$0	Autism Speaks

Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - California	Croen, Lisa	Kaiser Foundation Research Institute	\$1,050,000	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - North Carolina	Daniels, Julie	University of North Carolina at Chapel Hill	\$1,050,000	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - Maryland	Fallin, Margaret Danielle	Johns Hopkins University	\$1,000,000	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - Pennsylvania	Pinto-Martin, Jennifer	University of Pennsylvania/Children's Hospital of Philadelphia	\$1,050,000	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - Data Coordinating Center	Reed, Phillip	Michigan State University	\$868,500	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - Colorado	Robinson, Cordella	Colorado Department of Health and Environment	\$1,050,000	Centers for Disease Control and Prevention
Centers for Autism and Developmental Disabilities Research and Epidemiology (CADDRE) - Georgia	Schendel, Diana; Schieve, Laura; Wiggins, Lisa	Centers for Disease Control and Prevention (CDC)	\$985,604	Centers for Disease Control and Prevention
The UC Davis Center for Children's Environmental Health and Disease Prevention	VanDeWater, Judy	University of California - Davis	\$1,660,178	Environmental Protection Agency
Population-based autism genetics & environment study	Buxbaum, Joseph	Mount Sinai School of Medicine	\$600,532	National Institutes of Health
Project 1: Epidemiology and the environment in autism (Hertz-Picciotto)	Hertz-Picciotto, Irva	University of California, Davis	\$158,613	National Institutes of Health
The roles of environmental risks and GEX in increasing ASD prevalence	Kim, Young Shin	Yale University	\$532,325	National Institutes of Health
Gene-environment interactions in an autism birth cohort	Lipkin, W. lan	Columbia University	\$6,537,537	National Institutes of Health
Parental age and schizophrenia susceptibility	Ophoff, Roel	University of California, Los Angeles	\$308,000	National Institutes of Health

3.Other

Not specific to Question 3 objectives 2013 Projects: 4 2013 Funding: \$537,826

Project Title	Principal Investigator	Institution	Funding	Funder
Improving Environmental Risk Communication in Autism Spectrum Disorders	Yudell, Michael	Drexel University	\$0	Autism Speaks
Non-coding RNAs in autism	Campbell, Daniel	University of Southern California	\$246,000	National Institutes of Health
FOXP2-regulated signaling pathways critical for higher cognitive functions	Konopka, Genevieve	University of Texas Southwestern Medical Center	\$291,826	National Institutes of Health
A history of behavioral genetics	Schaffner, Kenneth	University of Pittsburgh	\$0	National Science Foundation